

Summary of Cancer Incidence and Mortality for Zip Code 29684 (Starr, SC)

Cancer Incidence in Zip Code 29684

The first step in the analysis of cancer data for zip code 29684 was to look at the number of new cancer cases diagnosed in the zip code and compare this to the number of cancer cases expected (see Table 1). This first step determines if there is anything unusual with cancer patterns in the area. The number of "expected" cancer cases is calculated by using South Carolina cancer rates and applying them to the population of the zip code.

Table 1 shows what types of cancer occurred in zip code 29684 from 1996-2000, and how many cancer cases were expected. Overall, there were fewer cases of cancer than expected. A total of 93 new cases of cancer occurred in the zip code, while 95 cases were expected. The most common types of cancer were lung, prostate, female breast, and colon/rectum cancers. These types of cancer are also the most common cancers occurring across all of South Carolina.

The analysis revealed one specific type of cancer (**lung**) where the number of cases was significantly higher than expected. By far, the most important risk factor for lung cancer is smoking. More than 80% of lung cancers are thought to result from smoking. However, there are other factors that can increase a person's risk of developing lung cancer. Exposure to second-hand smoke, asbestos, and radon increase risk. Also, exposure to cancer-causing agents in the workplace, such as uranium, arsenic, vinyl chloride, nickel chromates, coal products, fuels, and diesel exhaust can increase lung cancer risk. In addition, recurring inflammation, such as from tuberculosis or pneumonia, can leave scarring on the lungs, increasing the risk of developing lung cancer.

Cancer Deaths in Zip Code 29684

To assess cancer deaths in this zip code, cancer mortality data from 1997-2001 were used. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the zip code. A total of 34 cancer deaths occurred in this zip code, while 43 deaths were expected. Therefore, fewer cancer deaths occurred than expected.

The analysis did not reveal any specific types of cancer where the number of cancer deaths was significantly higher than expected.

Conclusions

To summarize, fewer cancer cases and deaths occurred in zip code 29684 than expected. A significant excess of lung cancer cases occurred. However, the risk factors associated with this type of cancer are majority lifestyle related. There were no cancer sites that were significantly elevated in deaths.

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer rather than more common cancers like lung or colon/rectum cancers. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer.

Taking all these criteria into consideration, there is no evidence of cancer clustering or of an excess of cancers resulting from environmental exposures in zip code 29684.

For questions about this report, please contact Laura Sanders at the SC Central Cancer Registry.

Report provided by:

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Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Services, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Division of Vital Records and the Division of Biostatistics, SC Dept. of Health and Environmental Control.

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Table 1. Analysis of New Cancer Cases in Zip Code 29684, 1996-2000

<u>Site</u>	<u>Observed No. of Cases</u>	<u>Expected No. of Cases</u>	<u>Observed/Expected</u>	<u>Chi-SquareTest*</u>
Lung/Bronchus	25	15.2	1.65	6.36
Prostate	11	16.6	0.66	1.87
Breast (Female)	10	14.1	0.71	1.19
Colon/Rectum	8	10.6	0.75	0.66
Unknown/III-Defined	4	NA	NA	NA
All Sites	93	95.2	0.98	0.05

Excludes in situ cases of cancer to allow for comparison.

Cancer sites with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

Prepared by: SC Central Cancer Registry, Office of Public Health Statistics and Information Services, Department of Health and Environmental Control, 2600 Bull St., Columbia, SC 29201

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Table 2. Analysis of Cancer Deaths in Zip Code 29684, 1997-2001

<u>Site</u>	<u>Observed No. of Deaths</u>	<u>Expected No. of Deaths</u>	<u>Observed/Expected</u>	<u>Chi-SquareTest*</u>
Lung/Bronchus	14	12.9	1.08	0.09
Unknown/III-Defined	3	NA	NA	NA
All Sites	34	42.7	0.80	1.78

Cancer sites with less than 5 cancer deaths expected are not analyzed due to the unreliability of statistical tests based on small numbers.

*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.

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